

Claims

1. A fuel cell assembly comprising:
a membrane electrode assembly;
a bipolar separator plate; and
independently-acting compliant electrical contacts disposed between said membrane electrode assembly and said bipolar separator plate.
2. A fuel cell stack, comprised of a first assembly according to claim 1 and a second assembly according to claim 1, wherein the independently-acting compliant electrical contacts of said first assembly are in electrical contact with the membrane electrode assembly of said second assembly.
3. The fuel cell assembly according to claim 1 wherein said independently-acting compliant electrical contacts comprises springs.
4. The fuel cell assembly according to claim 1, wherein said springs are inverted-V shaped.
5. The fuel cell assembly according to claim 1, wherein said springs are S-shaped.
6. The fuel cell assembly according to claim 1, wherein said springs are Z-shaped.
7. The fuel cell assembly according to claim 1, wherein said springs are omega-shaped, wherein said omega-shaped springs have a height and a tapered middle section, said tapered middle section having a width, and wherein said width is at least 50% as great as said height.
8. The fuel cell assembly according to claim 1, wherein said independently-acting compliant electrical contacts are formed into an array having a length, wherein said membrane electrode assembly has a length, and wherein said length of said array is approximately equal to said length of said membrane electrode assembly.
9. The fuel cell assembly according to claim 1 wherein said independently-acting compliant electrical contacts are formed into an array having a width, wherein said membrane electrode assembly has a width, and wherein said width of said array is approximately equal to said width of said membrane electrode assembly.
10. The fuel cell assembly according to claim 8 wherein said independently-acting compliant electrical contacts are formed into an array having a width, wherein said membrane electrode assembly has a width, and wherein said width of said array is approximately equal to said width of said membrane electrode assembly.
11. A fuel cell assembly comprising:
a membrane electrode assembly;
a non-bipolar separator plate; and
independently-acting compliant electrical contacts disposed between said membrane electrode assembly and said non-bipolar separator plate.